

ABSTRACT OF THE DISCLOSURE

A liquid injection apparatus includes an injection unit having piezoelectric/electrostrictive elements; a solenoid-operated on-off discharge valve for discharging fuel under pressure into the injection unit; and an electrical control unit. The electrical control unit sends a solenoid valve on-off signal to the solenoid-operated on-off discharge valve on the basis of operating conditions of an engine, whereby liquid fuel is fed under pressure to the injection unit from the solenoid-operated on-off discharge valve. When liquid pressure in the injection unit detected by a liquid feed path pressure sensor is judged to be in the process of increasing or lowering, the electrical control unit activates the piezoelectric/electrostrictive elements, thereby atomizing injected fuel. When the detected liquid pressure in the injection unit is judged to be a constant, low pressure, the electrical control unit inactivates the piezoelectric/electrostrictive elements, thereby reducing electrical consumption.